

In response to the Office Action of January 4, 2007, please amend application as follows:

CLAIMS:

1. (currently amended) An environmentally benign process for the simultaneous preparation of the monococrystalline anatase titanium dioxide powder having particle size in the range of 1 to 5 mm and hydrazine monohydrochloride, said process comprising the steps of:
 - (i.) adding hydrazine monohydrate solution drop wise to acidic aqueous solution of titanium tetrachloride at temperature in the range of 20 to 45° with constant stirring to form precipitate,
 - (ii.) filtering the precipitate of step [(a)] (i) to obtain titanium dioxide having particle size in the range of 1 to 5 mm and optionally freeze drying and washing the filtrate to obtain hydrazine monohydrochloride.
2. (currently amended) The process as claimed in claim 1, wherein in step [(a)] (i) the acidic aqueous solution of titanium tetrachloride contains $TiCl_4$ in the range of 5 to 40% v/v.
3. (currently amended) The process as claimed in claim 1, wherein in step [(a)] (i), the hydrazine monohydrate solution contains hydrazine monohydrate in the range of 10 to 99 % v/v.
4. (currently amended) The process as claimed in claim 1, wherein in step [(a)], (i) the hydrazine monohydrate solution contains 99% v/v hydrazine monohydrate.
5. (original) The process as claimed in claim 1, wherein the temperature is in the range of 20 to 40°C.

6. (currently amended) The process as claimed in claim 1, wherein in step [(a)], (i) the pH of the mixture of hydrazine monohydrate solution and acidic aqueous solution of titanium tetrachloride is in the range of 7 to 8.
7. (currently amended) The process as claimed in claim 1, wherein step [(a)] (i) is carried out in nitrogen atmosphere.
8. (currently amended) The process as claimed in claim 1, wherein the anatase titanium dioxide [N]anoparticles having a BET surface area in the range of 200 – 250 m²/gm are obtained.
9. (original) The process as claimed in claim 1, wherein hydrazine monohydrochloride obtained by freeze drying the filtrate and washing the filtrate with water at a temperature in the range of -60 to -40° C.
10. (currently amended) The process as claimed in claim 1, wherein the yield of anatase titanium dioxide and hydrazine monohydrochloride is above 95%.
11. (original) Naocrystalline anatase titanium dioxide powder obtained by the process as claimed in claim 1, wherein particle size of the nancrystalline titanium dioxide is in the range of 1 to 5 nm.
12. (original) Nanocrystalline anatase titanium dioxide powder obtained by the process as claimed in claim 1, wherein BET surface area of nanocrystalline anatase titanium dioxide powder is in the range of 200 – 250m²/gm.